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# (54) RADIO FREQUENCY ION SOURCE WITH MANEUVERABLE ELECTRODE(S)

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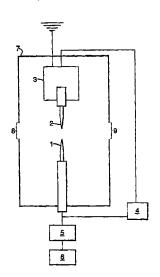
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#### (57) ABSTRACT

An rf ion source suitable for low power operation over a range of pressures in air which comprises discharge electrode, a cathode and an anode, the cathode being connected to an rf signal supply through an associated coupling means and the anode adapted to provide a surface area over which a plasma discharge may occur no greater than substantially that of the cathodal area over which the discharge may occur. The anode and cathode are arranged to be maneuverable with respect to one another in order to reduce the power requirements of the system and provide a means of controlling the rf discharge and ionization. An extended rf ion source, comprising a series of electrode pairs, provides flexibility for use in a variety of circumstances.

#### 12 Claims, 5 Drawing Sheets



426, 423

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